

The opinion in support of the decision being entered today was *not* written for publication and is *not* binding precedent of the Board

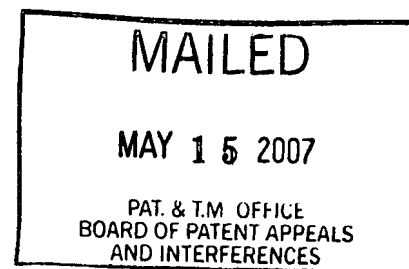
UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte SRINIVAS GUTTA and KAUSHAI KURAPATI

Appeal 2007-1122
Application 09/966,414¹
Technology Center 2600

Decided: May 15, 2007



Before LEE E. BARRETT, JAY P. LUCAS, and SCOTT R. BOALICK,
Administrative Patent Judges.

BOALICK, *Administrative Patent Judge.*

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134 from a final rejection of claims 1-6, 8-9, and 11. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

¹ Application filed September 28, 2001. The real party in interest is Koninklijke Philips Electronics N.V.

STATEMENT OF CASE

Appellants' invention relates to search engines that make recommendations for a user based on both the user's choices and the choices of others. (Specification 1: 12-15.) In the words of the Appellants:

The invention provides mechanisms to expand the choices provided by a user's preference profile based on the preferences of others, particularly those of users in the same household. Various types of mechanisms for generating and refining a selection engine based on positive and/or negative examples are known. One, called a version space algorithm, saves two descriptions of all the possible choices available in a database (i.e., the "choice space": (1) a general description that is the broadest description of the choice space excludes all negative choices and (2) a specialized description that is the narrowest description that embraces all positive examples in the choice space. Each time a negative or positive example is provided, it is used to alter the specialized or generalized description accordingly.

(Specification 9: 20 to 10: 11.)

Claims 1 and 9 are exemplary:

1. A method comprising:

receiving feedback from a first user scoring examples falling into various data-classes;

refining a first user profile associated with the first user responsively to the feedback; and

modifying the first user profile responsively to data from a second user profile associated with a second user such that a frequency of recommendations of at least one data-class is increased without decreasing a frequency of recommendations

of any other data-classes, so that the first user profile is expanded in scope according to preferences stored in the second user profile.

9. A data-class recommender, comprising:

a learning engine;

a user interface device operably coupled to the learning engine;

the learning engine being operably coupled to a data source containing descriptions of data selections;

the learning engine being programmed to:

receive, through the user interface device, feedback from a first user evaluating the data selections;

progressively generate a description of data selections that are favored and disfavored by the first user based on the feedback, thereby generating a first user profile;

generate recommendations of data selections for the first user responsively to the first user profile; and

selectively generate recommendations of data selections for the first user responsively to the first user profile and at least a second user profile of a second user;

wherein

the learning engine is programmed such that the first user profile includes

a narrow description defining target data selections and

a broad description defining non-target data
selections,

the recommendations being derived from a space of
selections lying between the broad and narrow descriptions.

The prior art relied upon by the Examiner in rejecting the claims on
appeal is:

Payton	US 5,790,935	Aug. 4, 1998
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Claims 1-6, 8-9, and 11 stand rejected under 35 U.S.C. § 102(b) as
being anticipated by Payton.

Rather than repeat the arguments of Appellants or the Examiner, we
make reference to the Briefs and the Answer for their respective details.
Only those arguments actually made by Appellants have been considered in
this decision. Arguments which Appellants could have made but chose not
to make in the Briefs have not been considered and are deemed to be
waived. *See* 37 C.F.R. § 41.37(c)(1)(vii) (2004).²

² Except as will be noted in this opinion, Appellants have not presented any
substantive arguments directed separately to the patentability of the
dependent claims or related claims in each group. In the absence of a
separate argument with respect to those claims, they stand or fall with the
representative independent claim. *See In re Young*, 927 F.2d 588, 590, 18
USPQ2d 1089, 1091 (Fed. Cir. 1991). *See also* 37 C.F.R. § 41.37(c)(1)(vii).

ISSUE

The issue is whether Appellants have shown that the Examiner erred in rejecting the claims under 35 U.S.C. § 102(b).

FINDINGS OF FACT

1. Payton describes a virtual on-demand digital information system that intelligently caches data at the site of local subscribers. (Col. 1, ll. 9-14.) By predicting which items a subscriber is likely to request and storing those items locally, the system reduces the number of subscriber requests that must be provided on-demand from the central distribution server. (Col. 3, ll. 33-37.)
2. Payton discloses a subscriber data base 38 that stores a subscriber profile 40 for each subscriber. (Col. 5, ll. 6-7.) The subscriber profile 40 may include a rating vector in which the subscriber has rated items that were previously requested, and also may include demographic information about the subscriber such as the subscriber's general likes and dislikes. (Col. 5, ll. 7-12; Fig. 6.)
3. The rating vectors 146 of the subscriber profile 40 have a length equal to the total number of items stored in the central distribution server 24, and that each dimension of the vector corresponds to a particular item 36 and is assigned a rating 148. (Col. 8, ll. 50-54; Fig. 6.) Empty spaces in the vector 146 represent items which have not been rated, and ratings for these items are predicted by a collaborative filter

42 based on the ratings of the other subscribers in the group. (Col. 8, ll. 55-58; Fig. 6.)

4. Payton teaches that a collaborative filtering system 42 synthesizes the subscriber profiles 40, predicts which of the available items 36 each subscriber may be interested in or may request, and produces a list 44 of recommended items for each subscriber. (Col. 5, ll. 12-16.) The list 44 may include items that a particular subscriber has never previously requested. (Col. 5, ll. 16-20.)
5. A scheduling processor 46 periodically receives an updated list 44 of recommended items for the subscriber from the collaborative filter 42 (step 68). (Col. 6, ll. 63-67; Fig. 3a.) The scheduling processor 46 transmits the changes in the lists to the subscribers (step 70) and merges the new additions to the list into a refresh queue (step 72). (Col. 6, l. 67 to col. 7, l. 4; Fig. 3a.)
6. The scheduling processor 46 retrieves an item from the refresh queue 47 (step 90), and updates the subscriber profile 40 to reflect the storage change that will occur when that item is received by the subscriber's local server 28 (step 94). (Col. 7, ll. 36-47; Fig. 3c.)
7. In the preferred embodiment, the collaborative filter 42 periodically re-computes subscriber similarity groups (step 152). (Col. 8, ll. 61-63; Fig. 7a.) Based on these groupings, the filter 42 predicts ratings

for each subscriber for the available digital items (step 154), determines which of those items, based on their ratings, are likely to interest the subscriber, and generates a new list 44 of recommended items (step 156). (Col. 8, l. 63 to col. 9, l. 1; Fig. 7a.) The collaborative filter 42 transfers the additions to the list and their respective ratings to the scheduling processor 46 (step 158). (Col. 9, ll. 1-3; Fig. 7a.)

8. In the preferred embodiment, the collaborative filter 42 receives a subscriber profile update from the local server. (Col. 9, ll. 4-6; Fig. 7b.) The collaborative filter 42 then updates the subscriber profile 40 (step 164), recomputes the subscriber similarity groups (step 166), predicts subscriber ratings (168), and determines revisions to the subscriber's list 44 of recommended items (step 170). (Col. 9, ll. 7-11; Fig. 7b.) The filter 42 sends rating changes to the subscriber (step 172) and sends additions to the scheduling processor (step 174). (Col. 9, ll. 11-13; Fig. 7b.)
9. A user may select a recommended item from a list 44 of recommended items displayed on a subscriber interface 58. (Col. 6, ll. 25-31.) After the user uses the requested item, the subscriber interface 58 preferably prompts the subscriber to enter a rating. (Col. 6, ll. 36-38.)

PRINCIPLES OF LAW

On appeal, Appellants bear the burden of showing that the Examiner has not established a legally sufficient basis for the rejection of the claims.

"In reviewing the examiner's decision on appeal, the Board must necessarily weigh all of the evidence and argument." *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992).

Anticipation is established when a single prior art reference discloses expressly or under the principles of inherency each and every limitation of the claimed invention. *Atlas Powder Co. v. IRECO Inc.*, 190 F.3d 1342, 1347, 51 USPQ2d 1943, 1946 (Fed. Cir. 1999); *In re Paulsen*, 30 F.3d 1475, 1478-79, 31 USPQ2d 1671, 1673 (Fed. Cir. 1994).

Our reviewing court states in *In re Zletz*, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989) that "claims must be interpreted as broadly as their terms reasonably allow." Our reviewing court further states that "the words of a claim 'are generally given their ordinary and customary meaning.'" *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312, 75 USPQ2d 1321, 1326 (Fed. Cir. 2005) (en banc) (internal citations omitted). The "ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application." *Id.* at 1313, 75 USPQ2d at 1326.

ANALYSIS

Appellants contend that Examiner erred in rejecting claims 1-6, 8-9, and 11 under 35 U.S.C. 102(b). In particular, with respect to independent claim 1 Appellants argue that "Payton fails to teach modifying a first user profile based on a second user profile[,] . . . increasing the frequency of recommendation of a data class without decreasing the frequency of another data-class[, and] . . . expanding the scope of a first user profile according to preferences in the second user profile." (Br. 7-8.) Regarding independent claim 5, Appellants assert that "Payton fails to teach selecting test-data for revising a first user's profile based on data from a second user's profile[, and] . . . primarily selecting the test-data for which the first user's profile is insufficient to determine whether the test-data would be favored or disfavored." (Br. 9.) With respect to independent claim 9, Appellants argue that "Payton fails to teach a user profile that includes a narrow description defining target data selections and a broad description defining non-target data selections." (Br. 11.)

Reviewing the findings of facts cited above, we do not agree. In particular, we find that the limitations of independent claims 1, 5, and 9 read on the reference of Payton.

Regarding claim 1, we find that Payton teaches modifying a first user profile based on a second user profile. In particular, the system of Payton produces a list of recommended items for a subscriber based on the ratings of other subscribers. (Findings of Fact 3, 4, 7.) The list of recommended items is used to update the subscriber profile. (Findings of Fact 5, 6, 8.)

Payton also teaches increasing the frequency of recommendation of a data class without decreasing the frequency of another data-class and expanding the scope of a first user profile according to preferences in the second user profile. In particular, Payton teaches that an item that has not been rated previously by a subscriber may receive a rating based on the ratings of other subscribers. (Finding of Fact 3.) Such a change in rating increases the frequency of recommendation of that particular item, but does not decrease the frequency of another item because it does not change the rating of other items. Also, such a change in rating expands the scope of the first subscriber profile according to the preferences in a second subscriber profile.

Therefore, as claimed, the subject matter of claim 1 reads on Payton. Claims 2-4 were not argued separately, and stand or fall together with claim 1.

Regarding claim 5, we find that Payton teaches selecting test data for revising a first user's profile based on data from a second user's profile. We believe the claim term "test data" is broad enough to encompass items in the subscriber profile, including items that have not been rated previously by the subscriber. (Finding of Fact 3.)

Items not rated previously by a subscriber may be selected and, as discussed with respect to claim 1, receive a rating based on the ratings of other subscribers. (Finding of Fact 3.) The list of recommended items sent to the subscriber may include items which the subscriber has not previously requested. (Finding of Fact 4.) The subscriber is prompted to rate an item when the subscriber selects it, and the subscriber's profile is updated based

on the subscriber's own rating of the item. (Findings of Fact 2, 9.)

Therefore, Payton teaches selecting test data for revising the first subscriber's profile based on data from a second subscriber's profile.

In addition, we find that Payton teaches primarily selecting the test data for which the first user's profile is insufficient to determine whether the test data would be favored or disfavored. Under a reasonable interpretation of claim 5, items in the subscriber's profile that have not been rated by the subscriber are insufficient to determine whether they would be favored or not by the subscriber. (Finding of Fact 3.)

Appellants also argue that "Payton fails to teach revising a first user profile based on data in a second user profile." (Reply Brief 3.) The plain language of claim 5 does not require the actual revision of the first user profile based on a second user profile.³ Instead, claim 5 requires selecting test data "for revising" the first user profile responsively to data from a second user profile. Even if claim 5 is interpreted to require revision of the first user profile based on a second user profile, Payton teaches this feature as discussed with respect to claim 1.

Therefore, as claimed, the subject matter of claim 5 reads on Payton. Claims 6 and 8 were not argued separately, and stand or fall together with claim 5.

With respect to claim 9, we find that Payton teaches a user profile that includes a narrow description defining target data selections and a broad description defining non-target data selection. The claim language is broad

³ We note that claim 5 does, however, require modification of the first user's profile based on feedback from the first user. Payton teaches this feature. (Findings of Fact 2, 9.)

enough that the claim term "narrow description" encompasses those items in the subscriber profile that have been rated by the subscriber and the claim term "broad description" encompasses those empty spaces in the subscriber profile for items that will be rated by others. (Finding of Fact 3.)

Therefore, as claimed, the subject matter of claim 9 reads on Payton. Claim 11 was not argued separately, and stands or falls together with claim 9.

CONCLUSION OF LAW

Based on the findings of facts and analysis above, we conclude that the Examiner did not err in rejecting claims 1-6, 8-9, and 11. The rejection of those claims is affirmed.

OTHER ISSUES

We note that there appears to be a lack of antecedent basis for the term "the recommender" in claim 5. There also appears to be a possible section 112, second paragraph, indefiniteness issue with respect to "the recommendations" recited in the second to last line of claim 9 because there are two prior claim limitations that each recite generating recommendations. We do not address these issues further in this decision.

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DECISION

The rejection of claims 1-6, 8-9, and 11 is Affirmed.

AFFIRMED

PGC

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